AMENDMENTS TO CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for authenticating a smart card (*SIM*) in a messaging network, ~~preferably a GSM network,~~ wherein an algorithm and a secret key are stored in a smart card (*SIM*), whereby for authentication

- the network or a network component first transfers a random number (*RAND*) to the smart card,
- a response signal (*SRES*) is generated therefrom in the smart card by means of the algorithm and the secret key (K_i) and transmitted to the network or network component,

characterized in that

- to form the response signal (*SRES*) the secret key (K_i) and the random number (*RAND*) are each split into at least two parts (K_1, K_2; $RAND_1$, $RAND_2$),
- one of the parts ($RAND_1$, $RAND_2$) of the transferred random number (*RAND*) is encrypted with the aid of one or more parts (K_1, K_2) of the secret key (K_i) by means of a one- or multistep[[,]] ~~preferably symmetrical~~ algorithm.

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2. (Original) A method according to claim 1, characterized in that a given number of bits is selected from the encryption result and transferred as a signal response (*SRES*) to the network.

3. (Currently Amended) A method according to claim 1, characterized in that at least one of the secret key (K_i) ~~and/or~~ and the random number (*RAND*) are split into two parts.

4. (Currently Amended) A method according to claim 1, characterized in that a part of the transferred random number (*RAND*) and one ~~and/or~~ or more parts of the secret key (K_i) are used

to calculate a channel coding key (K_c) by means of a one- or multistep algorithm, at least one part of the calculation result being used as the channel coding key (K_c).

5. (Previously Presented) A method according to claim 1, characterized in that the key (K_i) and the random number (*RAND*) are split into two equally long parts (K_1, K_2 /$RAND_1$, $RAND_2$).

6. (Currently Amended) A method according to claim 1, characterized in that DES algorithms are used to calculate at least one of the authentication parameters (*SRES, SRES*') ~~and/or~~ and the channel coding key (K_c).

7. (Currently amended) A method according to claim 1, characterized in that ~~the, preferably one-step~~[[,]] an IDEA algorithm is used to calculate the authentication parameters (*SRES, SRES*') ~~and/or~~ and the channel coding key (K_c).

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8. (Currently Amended) A method according to claim 1, characterized in that a compression algorithm whose output value has a smaller length than the input parameter is used to calculate the authentication parameters (*SRES, SRES*') ~~and/or~~ and the channel coding key (K_c).

9. (Currently Amended) A method according to claim ~~1~~ 8, characterized in that the calculation of the authentication parameters is effected in an at least two-step algorithm.

10. (Currently Amended) A method according to claim 1, characterized in that a triple DES algorithm is used as an encryption algorithm, whereby one first encrypts with the first part (K_1) of the key (K_i), then decrypts with the second part (K_2) of the key (K_i) and thereupon encrypts again with the first part ($K1$) or a third part of the key (K_i). by means of a one- or multistep[[,]] ~~preferably symmetrical~~ algorithm.

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11. (Previously Presented) A method according to claim 1, characterized in that a selection of the first or second part of the random number (*RAND*) is effected in the same way in the card and the network in random or pseudorandom alternation.